FIG.1

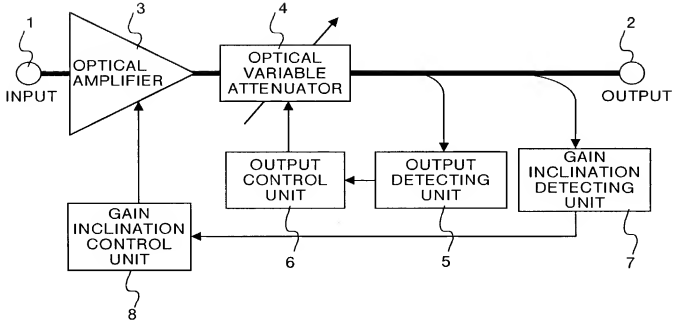

1
3
4
2
OPTICAL AMPLIFIER
OPTICAL VARIABLE ATTENUATOR
INPUT
OUTPUT
OUTPUT CONTROL UNIT
OUTPUT DETECTING UNIT
GAIN INCLINATION DETECTING UNIT
GAIN INCLINATION CONTROL UNIT
6
5
7
8

FIG.2

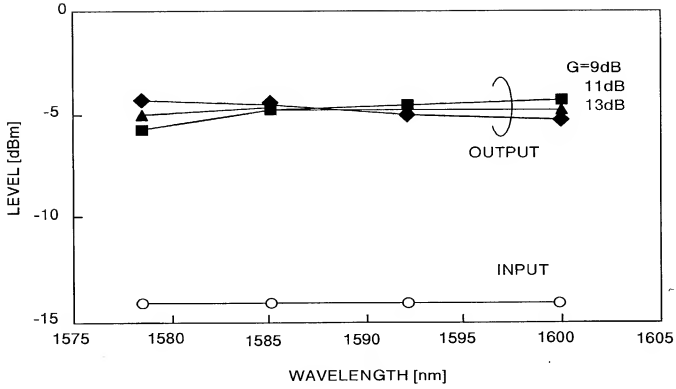

0
-5
-10
-15
LEVEL [dBm]
G=9dB
11dB
13dB
OUTPUT
INPUT
1575
1580
1585
1590
1595
1600
1605
WAVELENGTH [nm]

FIG.3

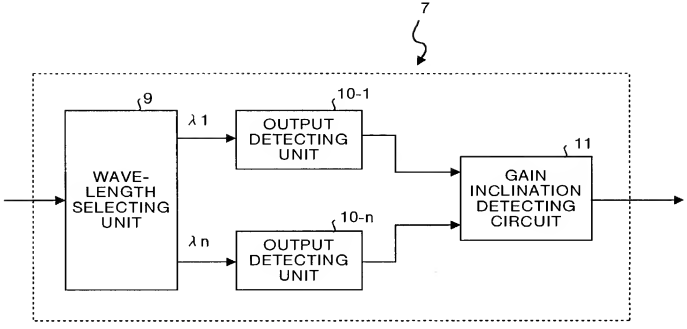

7
9
WAVE-LENGTH SELECTING UNIT
λ1
λn
10-1
OUTPUT DETECTING UNIT
10-n
OUTPUT DETECTING UNIT
11
GAIN INCLINATION DETECTING CIRCUIT

FIG.4

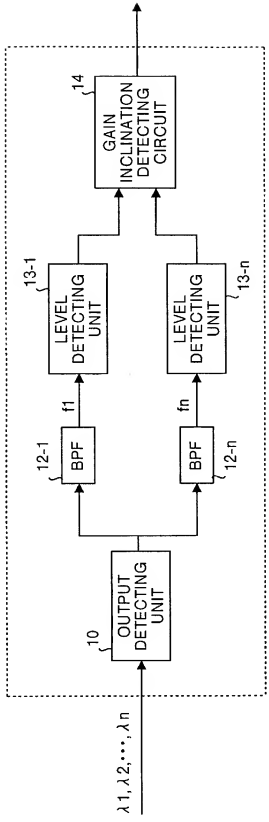

λ1, λ2, ···, λn
OUTPUT DETECTING UNIT
10
7
BPF
12-1
f1
BPF
12-n
fn
LEVEL DETECTING UNIT
13-1
LEVEL DETECTING UNIT
13-n
GAIN INCLINATION DETECTING CIRCUIT
14

FIG.5

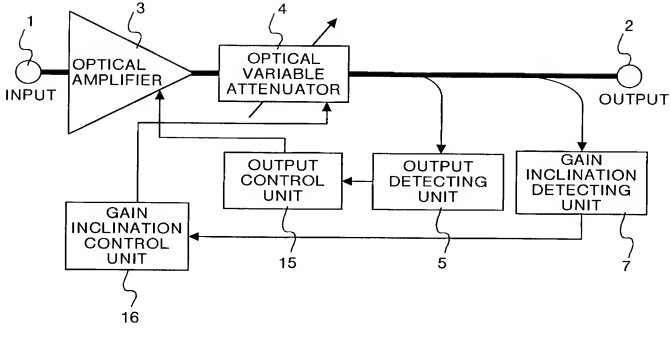

1
3
4
2
OPTICAL AMPLIFIER
OPTICAL VARIABLE ATTENUATOR
INPUT
OUTPUT
OUTPUT CONTROL UNIT
OUTPUT DETECTING UNIT
GAIN INCLINATION DETECTING UNIT
GAIN INCLINATION CONTROL UNIT
15
5
7
16

FIG.6

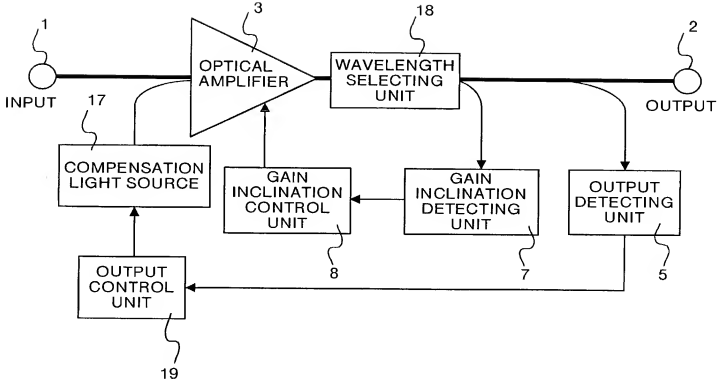

1
3
18
2
INPUT
OPTICAL AMPLIFIER
WAVELENGTH SELECTING UNIT
OUTPUT
17
COMPENSATION LIGHT SOURCE
GAIN INCLINATION CONTROL UNIT
GAIN INCLINATION DETECTING UNIT
OUTPUT DETECTING UNIT
8
7
5
OUTPUT CONTROL UNIT
19

FIG.7

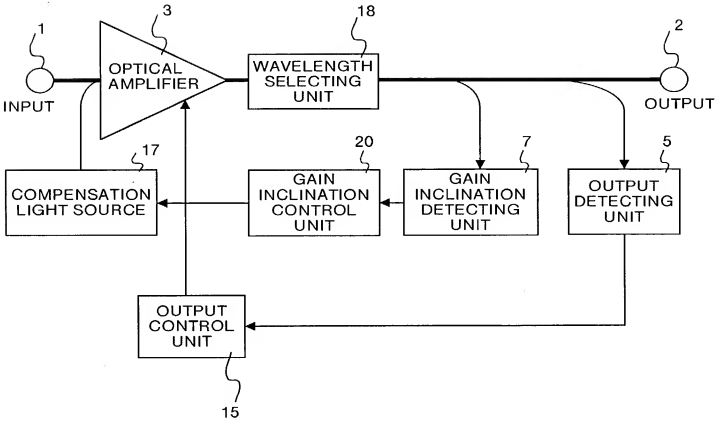

1
3
18
2
INPUT
OPTICAL AMPLIFIER
WAVELENGTH SELECTING UNIT
OUTPUT
17
20
7
5
COMPENSATION LIGHT SOURCE
GAIN INCLINATION CONTROL UNIT
GAIN INCLINATION DETECTING UNIT
OUTPUT DETECTING UNIT
OUTPUT CONTROL UNIT
15

FIG.8

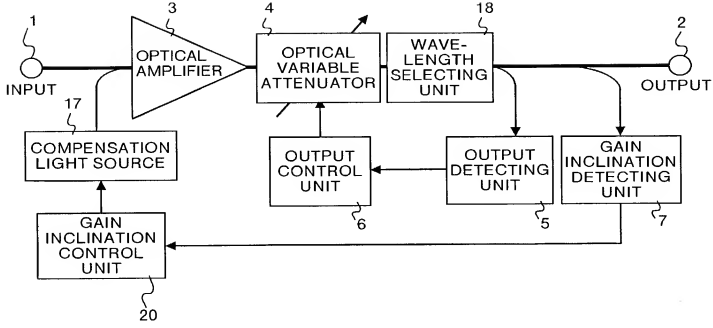
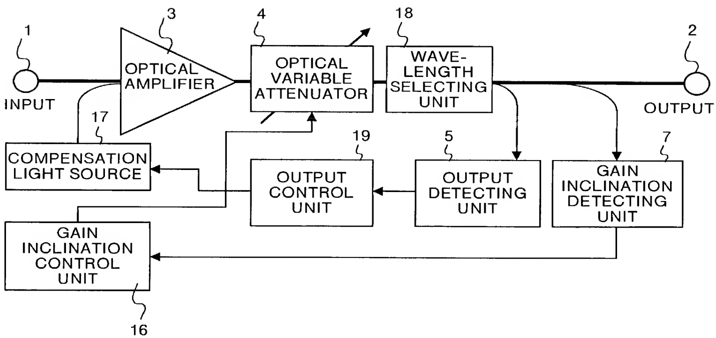

1
INPUT
3
OPTICAL AMPLIFIER
4
OPTICAL VARIABLE ATTENUATOR
18
WAVE-LENGTH SELECTING UNIT
2
OUTPUT
17
COMPENSATION LIGHT SOURCE
OUTPUT CONTROL UNIT
6
OUTPUT DETECTING UNIT
5
GAIN INCLINATION DETECTING UNIT
7
GAIN INCLINATION CONTROL UNIT
20

FIG.9



1
INPUT
3
OPTICAL AMPLIFIER
4
OPTICAL VARIABLE ATTENUATOR
18
WAVE-LENGTH SELECTING UNIT
2
OUTPUT
17
COMPENSATION LIGHT SOURCE
19
OUTPUT CONTROL UNIT
5
OUTPUT DETECTING UNIT
7
GAIN INCLINATION DETECTING UNIT
GAIN INCLINATION CONTROL UNIT
16

FIG.10

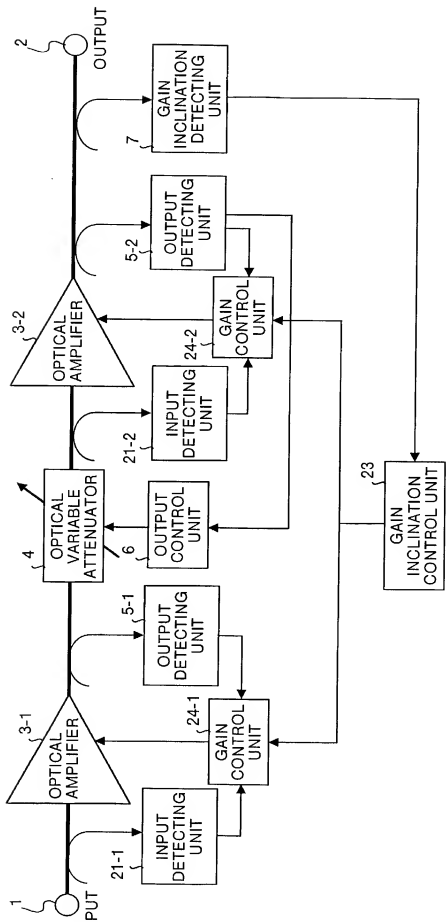


FIG.11

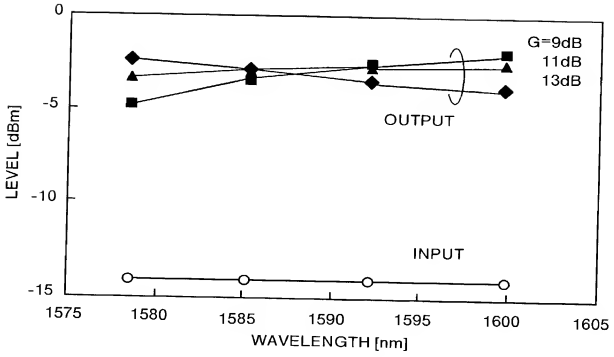

0
-5
-10
-15
LEVEL [dBm]
G=9dB
11dB
13dB
OUTPUT
INPUT
1575
1580
1585
1590
1595
1600
1605
WAVELENGTH [nm]

FIG.12

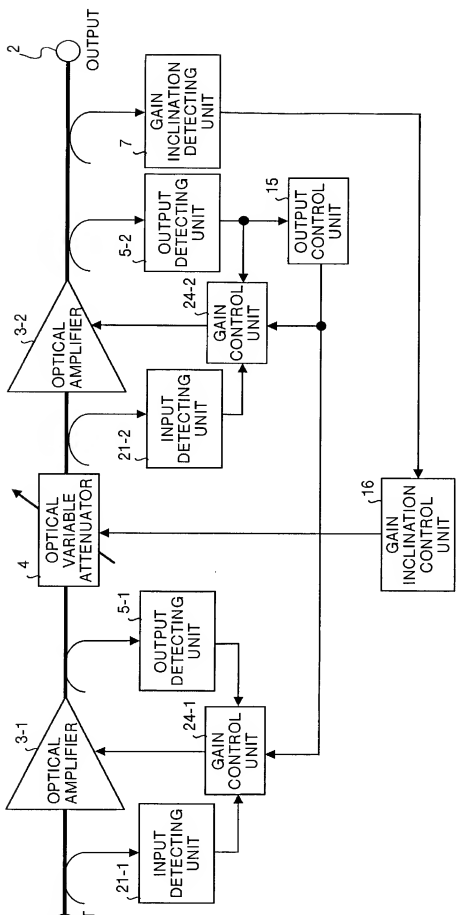


FIG.13

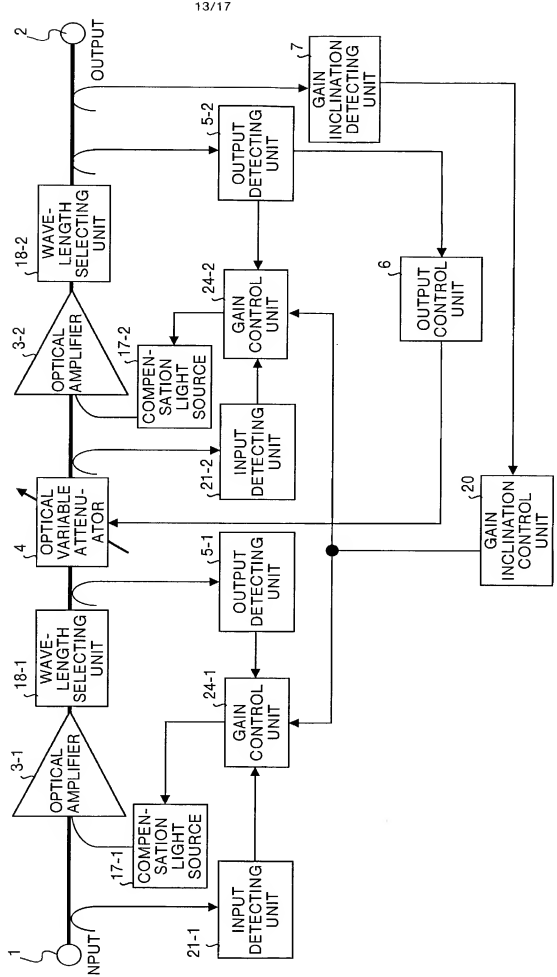

1
INPUT
2
OUTPUT
3-1
OPTICAL AMPLIFIER
3-2
OPTICAL AMPLIFIER
4
OPTICAL VARIABLE ATTENU-ATOR
5-1
OUTPUT DETECTING UNIT
5-2
OUTPUT DETECTING UNIT
6
OUTPUT CONTROL UNIT
7
GAIN INCLINATION DETECTING UNIT
17-1
COMPEN-SATION LIGHT SOURCE
17-2
COMPEN-SATION LIGHT SOURCE
18-1
WAVE-LENGTH SELECTING UNIT
18-2
WAVE-LENGTH SELECTING UNIT
20
GAIN INCLINATION CONTROL UNIT
21-1
INPUT DETECTING UNIT
21-2
INPUT DETECTING UNIT
24-1
GAIN CONTROL UNIT
24-2
GAIN CONTROL UNIT

FIG.14

1
INPUT
2
OUTPUT
3-1
OPTICAL AMPLIFIER
3-2
OPTICAL AMPLIFIER
4
OPTICAL VARIABLE ATTENU-ATOR
5-1
OUTPUT DETECTING UNIT
5-2
OUTPUT DETECTING UNIT
7
GAIN INCLINATION DETECTING UNIT
16
GAIN INCLINATION CONTROL UNIT
17-1
COMPEN-SATION LIGHT SOURCE
17-2
COMPEN-SATION LIGHT SOURCE
18-1
WAVE-LENGTH SELECTING UNIT
18-2
WAVE-LENGTH SELECTING UNIT
19
OUTPUT CONTROL UNIT
21-1
INPUT DETECTING UNIT
21-2
INPUT DETECTING UNIT
24-1
GAIN CONTROL UNIT
24-2
GAIN CONTROL UNIT

FIG.15

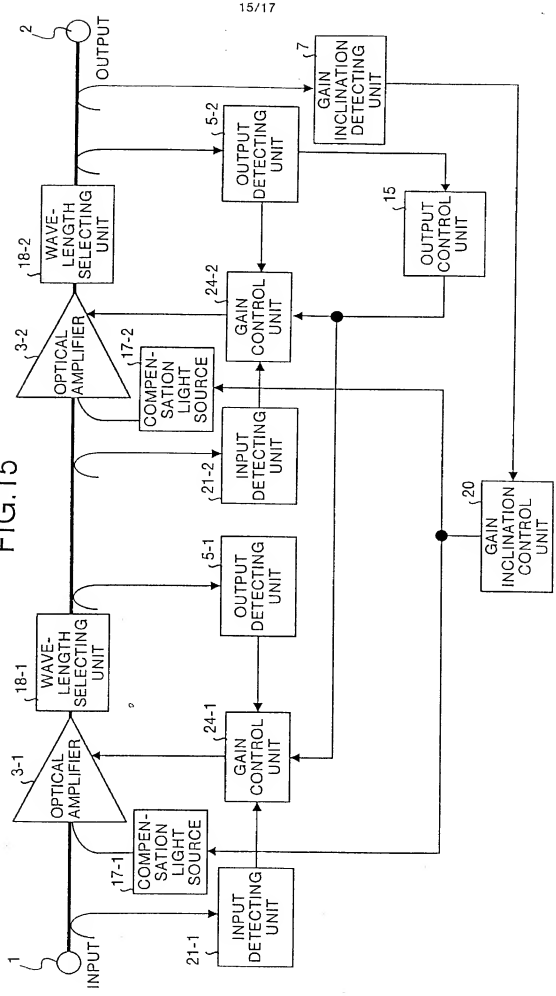

1
INPUT
2
OUTPUT
3-1
OPTICAL AMPLIFIER
3-2
OPTICAL AMPLIFIER
5-1
OUTPUT DETECTING UNIT
5-2
OUTPUT DETECTING UNIT
7
GAIN INCLINATION DETECTING UNIT
15
OUTPUT CONTROL UNIT
17-1
COMPEN-SATION LIGHT SOURCE
17-2
COMPEN-SATION LIGHT SOURCE
18-1
WAVE-LENGTH SELECTING UNIT
18-2
WAVE-LENGTH SELECTING UNIT
20
GAIN INCLINATION CONTROL UNIT
21-1
INPUT DETECTING UNIT
21-2
INPUT DETECTING UNIT
24-1
GAIN CONTROL UNIT
24-2
GAIN CONTROL UNIT

FIG.16

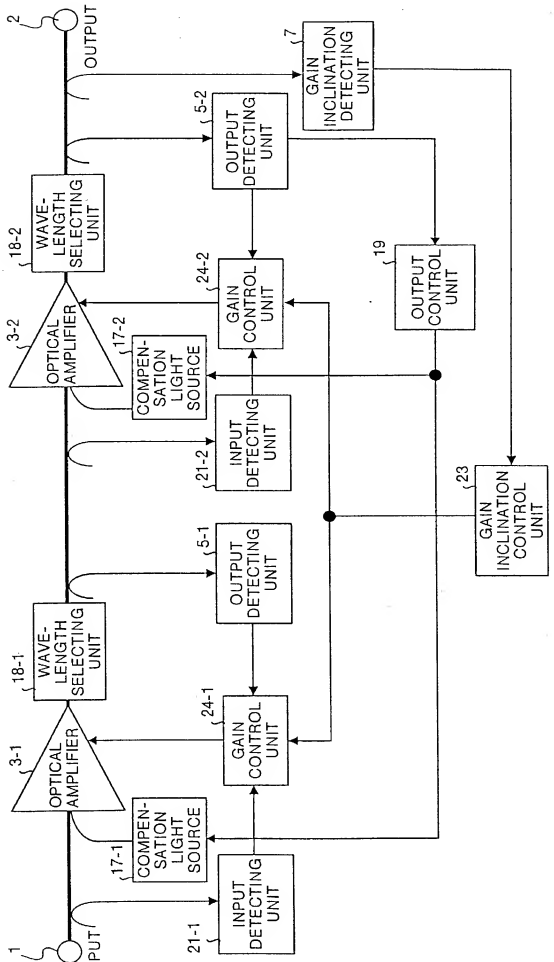
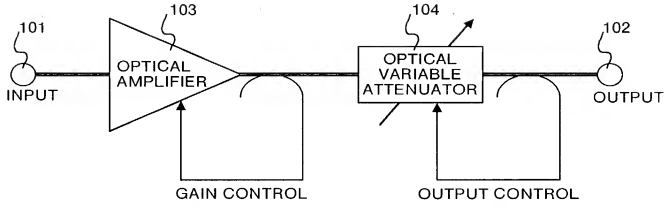

1
INPUT
2
OUTPUT
3-1
OPTICAL AMPLIFIER
3-2
OPTICAL AMPLIFIER
5-1
OUTPUT DETECTING UNIT
5-2
OUTPUT DETECTING UNIT
7
GAIN INCLINATION DETECTING UNIT
17-1
COMPEN-SATION LIGHT SOURCE
17-2
COMPEN-SATION LIGHT SOURCE
18-1
WAVE-LENGTH SELECTING UNIT
18-2
WAVE-LENGTH SELECTING UNIT
19
OUTPUT CONTROL UNIT
21-1
INPUT DETECTING UNIT
21-2
INPUT DETECTING UNIT
23
GAIN INCLINATION CONTROL UNIT
24-1
GAIN CONTROL UNIT
24-2
GAIN CONTROL UNIT

FIG.17


101
103
104
102
OPTICAL AMPLIFIER
OPTICAL VARIABLE ATTENUATOR
INPUT
OUTPUT
GAIN CONTROL
OUTPUT CONTROL